Hewlett-Packard Company

ProLiant DL380p Gen8
(1.80 GHz, Intel Xeon E5-2603)

SPECint_rate2006 = 175
SPECint_rate_base2006 = 168

CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
Tested by: Hewlett-Packard Company

Hardware

CPU Name: Intel Xeon E5-2603
CPU Characteristics:
CPU MHz: 1800
FPU: Integrated
CPU(s) enabled: 8 cores, 2 chips, 4 cores/chip
CPU(s) orderable: 1,2 chip
Primary Cache: 32 KB I + 32 KB D on chip per core
Secondary Cache: 256 KB I+D on chip per core
L3 Cache: 10 MB I+D on chip per chip
Other Cache: None
Memory: 128 GB (16 x 8 GB 2Rx4 PC3-12800R-11, ECC, running at 1066 MHz and CL7)
Disk Subsystem: 2 x 146 GB 15 K SAS, RAID 1
Other Hardware: None

Software

Operating System: Red Hat Enterprise Linux Server release 6.2, (Santiago)
Kernel 2.6.32-220.el6.x86_64
Compiler: C/C++: Version 12.1.2.273 of Intel C++ Studio XE for Linux
Auto Parallel: No
File System: ext4
System State: Run level 3 (multi-user)
Base Pointers: 32-bit
Peak Pointers: 32/64-bit
Other Software: Microquill SmartHeap V9.01
HP Array Configuration Utility, CLI version

Standard Performance Evaluation Corporation
info@spec.org
http://www.spec.org/
**SPEC CINT2006 Result**

**Hewlett-Packard Company**

ProLiant DL380p Gen8
(1.80 GHz, Intel Xeon E5-2603)

<table>
<thead>
<tr>
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<tr>
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<td>Hardware Availability: Jun-2012</td>
</tr>
<tr>
<td>Software Availability: Mar-2012</td>
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</table>

**SPECint_rate2006 = 175**

**SPECint_rate_base2006 = 168**

**Results Table**

<table>
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<tr>
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<th>Copies</th>
<th>Seconds</th>
<th>Ratio</th>
<th>Base</th>
<th>Seconds</th>
<th>Ratio</th>
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<th>Seconds</th>
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<td>204</td>
<td>272</td>
<td>203</td>
<td>8</td>
<td>271</td>
</tr>
</tbody>
</table>

Results appear in the order in which they were run. Bold underlined text indicates a median measurement.

**Submit Notes**

The numactl mechanism was used to bind copies to processors. The config file option 'submit' was used to generate numactl commands to bind each copy to a specific processor. For details, please see the config file.

**Operating System Notes**

Stack size set to unlimited using "ulimit -s unlimited"
Transparent Huge Pages enabled with:
```
echo always > /sys/kernel/mm/transparent_hugepage/enabled
```
Filesystem page cache cleared with:
```
echo 1 > /proc/sys/vm/drop_caches
```
runspec command invoked through numactl i.e.:
```
numactl --interleave=all runspec <etc>
```
Drive Write Cache set to Enabled in HP Array Configuration Utility, CLI version
```
Accelerator Ratio for Reads/Writes set to = 100% Read / 0% Write in HP Array Configuration Utility, CLI version
```

**Platform Notes**

BIOS Configuration:

- HP Power Profile set to Custom
- Energy/Performance Bias is set to Maximum Performance
- Thermal Configuration set to Maximum Cooling
- Collaborative Power Control set to Disabled
- Processor Power and Utilization Monitoring set to Disabled

Sysinfo program /cpu2006/config/sysinfo.rev6800
```
$Rev: 6800 $ $Date:: 2011-10-11 #$ 6f2ebdf5032aaa42e583f96b07f99d3
running on DL380G8-3 Tue Jul 31 16:26:36 2012
```
Continued on next page
Hewlett-Packard Company
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CPU2006 license: 3
Test sponsor: Hewlett-Packard Company
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Platform Notes (Continued)

This section contains SUT (System Under Test) info as seen by
some common utilities. To remove or add to this section, see:
http://www.spec.org/cpu2006/Docs/config.html#sysinfo

From /proc/cpuinfo
  model name : Intel(R) Xeon(R) CPU E5-2603 0 @ 1.80GHz
    2 "physical id"s (chips)
     8 "processors"
  cores, siblings (Caution: counting these is hw and system dependent. The
  following excerpts from /proc/cpuinfo might not be reliable. Use with
  caution.)
     cpu cores : 4
     siblings : 4
     physical 0: cores 0 1 2 3
     physical 1: cores 0 1 2 3
  cache size : 10240 KB

From /proc/meminfo
  MemTotal: 132260288 kB
  HugePages_Total: 0
  Hugepagesize: 2048 kB

/usr/bin/lsb_release -d
  Red Hat Enterprise Linux Server release 6.2 (Santiago)

From /etc/*release* /etc/*version*
  redhat-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)
  system-release: Red Hat Enterprise Linux Server release 6.2 (Santiago)

uname -a:
  Linux DL380G8-3 2.6.32-220.el6.x86_64 #1 SMP Wed Nov 9 08:03:13 EST 2011
     x86_64 x86_64 x86_64 GNU/Linux

run-level 3 Jul 31 16:25

SPEC is set to: /cpu2006
  Filesystem  Type  Size  Used  Avail  Use%  Mounted on
  /dev/sda3  ext4  133G  7.8G  118G   7%  /

Additional information from dmidecode:
  BIOS HP P70 02/21/2012
  Memory:
     16x Not Specified Not Specified 8 GB 1600 MHz 2 rank

(End of data from sysinfo program)
**Spec CINT2006 Result**

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**Environment variables set by runspec before the start of the run:**

```
KMP_AFFINITY = "granularity=fine,compact,1,0"
LD_LIBRARY_PATH = "/cpu2006/libs2/32:/cpu2006/libs2/64"
```

Binaries compiled on a system with 2x Xeon E5-2667 CPU + 256GB memory using SLES11SP2RC3

### General Notes

| **CPU2006 license:** | 3 |
| **Test date:** | Jul-2012 |
| **Test sponsor:** | Hewlett-Packard Company |
| **Tested by:** | Hewlett-Packard Company |
| **Hardware Availability:** | Jun-2012 |
| **Software Availability:** | Mar-2012 |

### Base Compiler Invocation

- **C benchmarks:**
  - `icc -m32`

- **C++ benchmarks:**
  - `icpc -m32`

### Base Portability Flags

```
400.perlbench: -DSPEC\_CPU\_LINUX\_IA32
462.libquantum: -DSPEC\_CPU\_LINUX
483.xalancbmk: -DSPEC\_CPU\_LINUX
```

### Base Optimization Flags

- **C benchmarks:**
  - `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

- **C++ benchmarks:**
  - `-xSSE4.2 -ipo -O3 -no-prec-div -opt-prefetch -opt-mem-layout-trans=3`

  ```
  -Wl,-z,muldefs -L/spec/libs2/32 -lsmartheap
  ```

### Base Other Flags

- **C benchmarks:**
  - `403.gcc: -Dalloca=_alloca`

### Peak Compiler Invocation

- **C benchmarks (except as noted below):**
  - `icc -m32`
### Peak Compiler Invocation (Continued)

400.perlbench: `icc -m64`

401.bzip2: `icc -m64`

456.hmmer: `icc -m64`

458.sjeng: `icc -m64`

C++ benchmarks:
- `icpc -m32`

### Peak Portability Flags

400.perlbench: `-DSPEC_CPU_LP64 -DSPEC_CPU_LINUX_X64`

401.bzip2: `-DSPEC_CPU_LP64`

456.hmmer: `-DSPEC_CPU_LP64`

458.sjeng: `-DSPEC_CPU_LP64`

462.libquantum: `-DSPEC_CPU_LINUX`

483.xalancbmk: `-DSPEC_CPU_LINUX`

### Peak Optimization Flags

C benchmarks:

400.perlbench: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -auto-ilp32`

401.bzip2: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -opt-prefetch -auto-ilp32 -ansi-alias`

403.gcc: `basepeak = yes`

429.mcf: `basepeak = yes`

445.gobmk: `-xSSE4.2(pass 2) -prof-gen(pass 1) -prof-use(pass 2) -ansi-alias -opt-mem-layout-trans=3`

456.hmmer: `-xSSE4.2 -ipo -O3 -no-prec-div -unroll2 -auto-ilp32`

458.sjeng: `-xSSE4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2) -O3(pass 2) -no-prec-div(pass 2) -prof-use(pass 2) -unroll4 -auto-ilp32`
Hewlett-Packard Company
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Peak Optimization Flags (Continued)

462.libquantum: basepeak = yes
464.h264ref: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-unroll2 -ansi-alias

C++ benchmarks:
471.omnetpp: -xsse4.2(pass 2) -prof-gen(pass 1) -ipo(pass 2)
-03(pass 2) -no-prec-div(pass 2) -prof-use(pass 2)
-ansi-alias -opt-ra-region-strategy=block -Wl,-z,muldefs
-L/spec/libs2/32 -lsmartheap
473.astar: basepeak = yes
483.xalancbmk: basepeak = yes

Peak Other Flags

C benchmarks:
403.gcc: -Dalloca=_alloca

The flags files that were used to format this result can be browsed at
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.html
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120523.html

You can also download the XML flags sources by saving the following links:
http://www.spec.org/cpu2006/flags/Intel-ic12.1-official-linux64.20120425.xml
http://www.spec.org/cpu2006/flags/HP-Platform-Flags-Intel-V1.2-A.20120523.xml

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For questions about this result, please contact the tester.
For other inquiries, please contact webmaster@spec.org.

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